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MEMORANDUM

November 19, 2014

TO: Interested Persons

FROM: Mistia Zuckerman, Research Analyst, 303-866-4364

SUBJECT: Unmanned Aircraft Systems Overview

Summary

This memorandum responds to your request for information about unmanned aircraft systems (UAS) and summarizes current Federal Aviation Administration (FAA) regulations for model, public, and civil use. This memorandum reviews recent legislative activity for UAS in all 50 states, including a summary of the bills that have passed since 2013. Colorado law does not specifically address UAS.

UAS Terminology

Unmanned aircraft (UA) are pilotless aircraft that are controlled wirelessly. UAS are the entire system, including the pilot on the ground or the on-board computer, the data links and communication equipment, and the aircraft. Other terms for UAS include drone, unmanned aerial vehicle (UAV), remotely piloted aircraft (RPA), and remotely piloted vehicle (RPV). The FAA definition of UAS does not differentiate between aircraft designs, such as model airplanes or quadricopters. FAA rules are based on the intended use of a UAS rather than its design.

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Use by Federal Agencies

The U.S. military and federal agencies are currently not required to report on UAS use in U.S. airspace. However, *The Washington Post* recently reported that President Obama is preparing to issue an executive order that would require most federal agencies to disclose information on their surveillance capabilities and what they do with the data that they collect.¹

Federal Regulation of U.S. Airspace

The FAA is responsible for maintaining safety in the National Airspace System (NAS), which is considered to be anything above the ground. The FAA first authorized the use of unmanned aircraft in the NAS in 1990. Apart from federal use, the FAA classifies domestic use into three categories: model, public, and civil UAS.

Model UAS. This category includes model airplanes and UAS under 55 pounds flown for recreational use within 400 feet of the ground. There are no prohibitions against using additional equipment, such as video cameras.

Public UAS. State government agencies, law enforcement, and universities are considered public entities and must get a Certificate of Authorization (COA) from the FAA before operating a UAS. According to the FAA, there were 545 active COAs nationwide for public use as of December 4, 2013. Common uses for UAS in this category include general UAS research, searching for missing people, fighting fires, measuring tornado wind speeds, and surveying crops.

Civil UAS. Commercial operations are authorized by the FAA on a case-by-case basis and require the pilot to be licensed and the aircraft to be certified. As of September 25, 2014, the FAA had authorized two aircraft to inspect oil and gas wells in the Arctic, and issued regulatory exemptions to six aerial photo production companies.²

¹Craig Whitlock, "White House Plans to Require Federal Agencies to Provide Details About Drones," *The Washington Post*, Sept. 26, 2014, <http://www.washingtonpost.com/world/national-security/white-house-plans-to-require-federal-agencies-to-provide-details-about-drones/2014/09/26/5f55ac24-4581-11e4-b47c-f5889e061e5f_story.html>, Accessed November 17, 2014.

²FAA, "Press Release – U.S. Transportation Secretary Foxx Announces FAA Exemptions for Commercial UAS Movie and TV Production." Sept. 25, 2014, <http://www.faa.gov/news/press_releases/news_story.cfm?newsId=17194>, Accessed Nov. 10, 2014.

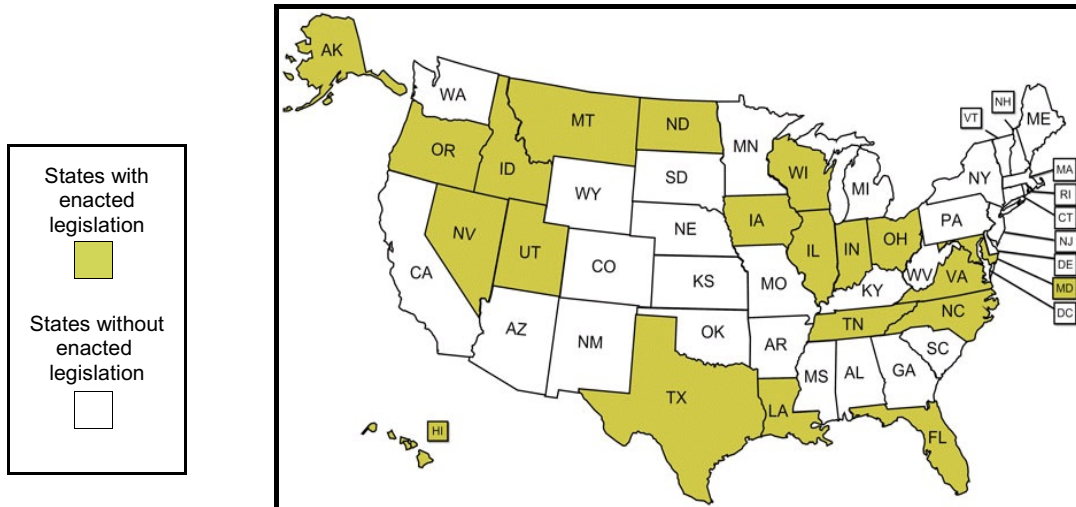
State Laws

According to the National Conference of State Legislatures (NCSL), almost all 50 states, with the exception of Colorado, South Dakota, Delaware, and Mississippi, introduced bills or resolutions concerning UAS in the last two years.

As illustrated in Figure 1, 20 states (shown with shading) passed one or more laws addressing the use of UAS. These states focused on many similar issue areas, such as:

- 14 states restricted the use of UAS by law enforcement agencies, many specifying that a search warrant is required (AK, FL, IA, ID, IL, IN, MT, NC, OR, TN, TX, UT, VA, WI);
- 7 states created a task force or study committee for UAS (AK, CT, IN, LA, OH, NC, UT);
- 5 states restricted the use of information obtained by UAS as evidence in court (FL, IA, ID, IL, MT);
- 4 states restricted the use of data obtained by UAS (TN, TX, UT, OR);
- 4 states provided for civil action related to UAS (FL, ID, TN, TX);
- 2 states prohibited the use of UAS to watch a person hunt or fish (IL, TN);
- 2 states made the use of weaponized drones a crime (WI, OR);
- 2 states created agency reporting requirements of UAS activities (UT, OR);
- 1 state expressly prohibited the use of UAS in traffic enforcement (IA);
- 1 state allowed a landowner to bring action against someone flying a UAS lower than 400 feet over his or her property (OR).

Figure 1
States with UAS Laws



Source: National Conference of State Legislatures.

Additional information about specific state legislation is available from staff upon request.

UAS in Colorado

The University of Colorado, Boulder, and the Mesa County sheriff's office are currently authorized by the FAA to fly UAS in the state. While UAS are widely available for purchase across the country, the FAA does not collect data at this time on purchases of UAS or track recreational use.

In January 2014, the Colorado Parks and Wildlife Commission passed an administrative regulation defining drone as "any contrivance invented, used or designed for navigation of, or flight in the air that is unmanned or guided remotely" and prohibited the use of drones as a hunting aid to look for wildlife.³ Currently, Colorado does not have any state laws specifically pertaining to UAS.

³ 2 CCR 406-0 (4 (C)).